

WE CLAIM:

1. A system for providing telephony service over a packet-based network, comprising in combination:

a call director operable to receive a call request over a packet-based network and to determine whether the call request is authorized; and

5 a call handler operable to translate the call request from a non-native protocol to a native protocol, wherein the native protocol is associated with a gateway to a circuit-switched network.

2. The system of Claim 1, further comprising a call logger operable to track calls.

3. The system of Claim 1, wherein the call director launches the call handler upon determining that the call request is authorized.

4. The system of Claim 1, wherein the non-native protocol includes a set of data messages in a proprietary format to control call functionality.

5. The system of Claim 4, wherein the set of data messages is formatted according to a protocol selected from the group consisting of UDP, TCP, and HTTP.

6. The system of Claim 4, wherein the set of data messages includes information selected from the group consisting of an IP address, a port number, an ITU E.164 phone number, a user name, a token, a key, a password, and a command for the call handler.

7. The system of Claim 4, wherein the native protocol includes at least one protocol selected from the group consisting of H.323, Session Initiation Protocol, and Media Gateway Control Protocol.

8. The system of Claim 1, wherein the call handler includes protocol stacks for both the non-native protocol and the native protocol.

9. The system of Claim 1, wherein the call handler comprises a call master and a call slave.

10. A system for providing telephony service to a user device, wherein the user device is linked to a packet-based network, comprising in combination:

a user device interface operable to accept information from a user pertaining to a call request; and

a call client application operable to formulate the call request according to a non-native protocol.

11. The system of Claim 10, wherein the non-native protocol includes a set of data messages in a proprietary format to control call functionality.

12. The system of Claim 11, wherein the set of data messages is formatted according to a protocol selected from the group consisting of UDP, TCP, and HTTP.

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13. The system of Claim 11, wherein the set of data messages includes information selected from the group consisting of an IP address, a port number, an ITU E.164 phone number, a user name, a token, a key, a password, and a command for the call handler.

14. A system for providing telephony service over a packet-based network, comprising in combination:

a front-end server operable to receive a call request from a user device, wherein the user device communicates the call request according to a non-native protocol;

5 at least one call server operable to initiate a call according to the call request; and

at least one proxy server operable to select a gateway to a public switched telephone network, wherein the gateway operates according to a native protocol.

15. The system of Claim 14, wherein the front-end server comprises a load balancer operable to select a target call server from the at least one call server.

16. The system of Claim 15, wherein the front-end server further comprises a call server database including information pertaining to the at least one call server.

17. The system of Claim 14, wherein each of the at least one call server comprises a call director, wherein the call director is operable to determine whether the call request is valid, and wherein the call director is additionally operable to launch a call handler upon determining that the call request is valid.

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18. The system of Claim 14, wherein each of the at least one call server comprises:
a call director operable to determine whether the call request is valid; and
a call handler, wherein the call handler is operable to receive packets from the
user device in the non-native protocol, and wherein the call handler is additionally
operable to transmit packets to the gateway in the native protocol.

19. The system of Claim 18, wherein the non-native protocol is composed of a subset of the
native protocol.

20. The system of Claim 19, wherein the native protocol is selected from H.323, SIP, and
MGCP.

21. The system of Claim 14, wherein the proxy server selects the gateway by accessing at
least one of a registration database and a gateway database.

22. The system of Claim 14, wherein the front-end server comprises a load balancer operable
to select a target call server from the at least one call server, wherein the proxy server selects the
gateway by accessing a registration database and a gateway database, and wherein each of the at
least one call server comprises:

a call director operable to determine whether the call request is valid; and
a call handler, wherein the call handler is operable to receive packets from the
user device in the non-native protocol, and wherein the call handler is additionally
operable to transmit packets to the gateway in the native protocol.

23. The system of Claim 22, wherein the registration database and the gateway database are included within a single database.

24. The system of Claim 23, wherein the native protocol is selected from H.323, SIP, and MGCP.

25. The system of Claim 22, wherein each of the at least one call server further comprises a call logger.

26. The system of Claim 14, wherein the front-end server comprises a load balancer operable to select a target call server from the at least one call server, and wherein each of the at least one call server comprises a call director, a call handler, and a call logger.

27. A system for providing telephony service, comprising in combination:

a call client downloadable to a user device located on a packet-switched network, wherein the call client is operable to transmit a first call request according to a non-native protocol; and

5 a call server located on the packet-switched network, wherein the call server is operable to receive the first call request according to the non-native protocol, wherein the call server is operable to transmit a second call request according to a native protocol.

28. The system of Claim 27, further comprising a gateway operable to receive the second call request according to the native protocol, and wherein the gateway is operable to initiate a call on a circuit-switched network.

29. The system of Claim 27, further comprising a front-end server operable to receive a call request from the user device.

30. The system of Claim 29, wherein the front-end server comprises a load balancer operable to select the call server from a plurality of call servers.

31. The system of Claim 27, further comprising a proxy server operable to select the gateway from a plurality of gateways.

32. A method for providing packet-switched telephony service, comprising in combination:
 receiving a call request from a user device, wherein the call request includes a target indicator corresponding to a target device, and wherein the call request is in accordance with a non-native protocol;

5 selecting a call server to process the call request, wherein the call server includes a call director operable to determine whether the call request is authorized;

 launching a call handler includes a call master and a call slave, wherein the call master receives the call request in the non-native protocol, wherein the call handler converts the call request to a native protocol;

transmitting the call request in the native protocol to a gateway, wherein the gateway implements the native protocol, and wherein the gateway is operable to forward the call request to the target device.

33. The method of Claim 32, further comprising selecting the gateway from a plurality of gateways based on at least one gateway selection criterion.

34. The method of Claim 33, wherein the at least one gateway selection criterion includes at least one criterion selected from the group consisting of number of calls, location of gateway, and type of telephony protocol.

35. The method of Claim 32, wherein the user device makes a call request on a web site associated with the call server.

36. The method of Claim 35, wherein the web site can be accessed using a web-browser.

37. The method of Claim 32, wherein the target indicator is a phone number, wherein the target device is associated with a target phone number, and wherein the web site is operable to receive the target phone number.

38. The method of Claim 32, wherein the web site is operable to select an address book selection to obtain the target indicator.

39. The method of Claim 32, wherein the gateway forwards the call request to the target device through a public switched telephone network.

40. The method of Claim 32, wherein the call request consists of at least one packet.

41. The method of Claim 32, wherein the user device is operable to access the Internet.

42. The method of Claim 32, wherein the user device is operable to execute a telephony client.

43. The method of Claim 32, wherein the user device is a device selected from the group consisting of a personal computer, a mobile phone, a wireless handheld, and a packet-switched telephone.

44. The method of Claim 32, wherein the user device includes a call client.

45. The method of Claim 44, wherein the call client includes a software library and a virtual machine.

46. The method of Claim 45, wherein the virtual machine is a Java virtual machine.

47. The method of Claim 45, wherein the software library includes at least one component selected from the group consisting of an application program interface, a voice codec, and a call control stack.
48. The method of Claim 45, wherein the virtual machine includes a graphical user interface.
49. The method of Claim 32, wherein the call server further comprises a plurality of call handlers and a call logger.
50. The method of Claim 49, wherein the call logger includes a display unit and a connection database.
51. The method of Claim 49, wherein the call logger tracks active calls.
52. The method of Claim 49, wherein the call logger removes inactive calls from a database.
53. The method of Claim 49, wherein the call logger tracks at least one event selected from the group consisting of a call handler launch, a call ringing at the target device, an establishment of a call, and a disconnection of a call.
54. The method of Claim 32, wherein the call director includes a rules database and a branding unit.

55. The method of Claim 54, wherein call director accesses the rules database to determine if the call request is authorized.
56. The method of Claim 54, wherein the call director is operative to send a message to the user device if the call request is not authorized.
57. The method of Claim 54, wherein the branding unit provides branding information to the user device.
58. The method of Claim 32, wherein the call handler is launched for every call.
59. The method of Claim 32, wherein the non-native protocol includes a set of data messages in a proprietary format to control call functionality.
60. The method of Claim 59, wherein the set of data messages is formatted according to a protocol selected from the group consisting of UDP, TCP, and HTTP.
61. The method of Claim 59, wherein the set of data messages includes information selected from the group consisting of an IP address, a port number, an ITU E.164 phone number, a user name, a token, a key, a password, and a command for the call handler.

62. The method of Claim 32, wherein the native protocol includes at least one protocol selected from the group consisting of H.323, Session Initiation Protocol, and Media Gateway Control Protocol.
63. The method of Claim 32, wherein the call handler includes protocol stacks for both the non-native and the native protocols.
64. The method of Claim 32, further comprising selecting the gateway.
65. The method of Claim 64, wherein the gateway is selected by a proxy server, and wherein the proxy server is operable to access a registration database and a gateway database.
66. The method of Claim 65, wherein the registration database stores information pertaining to at least one user device.
67. The method of Claim 65, wherein the gateway database stores information pertaining to at least one gateway.
68. The method of Claim 32, wherein the target device is a telephone having a connection to a public switched telephone network.
69. A method for providing packet-switched telephony service, comprising in combination:
 receiving a call request from a user device according to a non-native protocol;

providing a call server to process the call request, wherein the call server includes a call director operable to determine whether the call request is authorized;

5 registering the user device with a proxy server upon determining that the call request is authorized, wherein the proxy server is operable to periodically obtain a gateway status;

 selecting a gateway based on the gateway status, wherein the gateway operates according to a native protocol;

10 transmitting a network address to the user device in a non-native protocol, wherein the network address is associated with the gateway;

 transmitting the call request to the gateway in the native protocol, wherein the gateway implements the native protocol, and wherein the gateway is operable to forward the call request to the target device;

15 transmitting a call status indicator to the user device; and
 establishing a call.

70. The method of Claim 69, wherein the call request includes a telephone number corresponding to the target device.

71. The method of Claim 69, wherein the call director transmits an unauthorized message to the user device if the call request is not authorized.

72. The method of Claim 69, wherein the proxy server is operable to access a registration database and a gateway database.

73. The method of Claim 69, further comprising transmitting branding information from the call server to the user device.
74. The method of Claim 69, wherein the gateway notifies the user device that the call is established.
75. The method of Claim 69, wherein the call server monitors the call.
76. The method of Claim 69, wherein either the user device or the target device can disconnect the call.
77. A method for providing packet-switched telephony service, comprising in combination:
 - sending call control data from a user device to a packet-switched telephony service provider according to a non-native protocol; and
 - sending media from the user device to a gateway according to a native protocol.
78. The method of Claim 77, wherein the call control data includes data selected from the group consisting of a call request, ping information, and disconnect signals.
79. The method of Claim 77, further comprising sending call control data from the packet-switched telephony service provider to the gateway according to the native protocol.

80. The method of Claim 77, wherein the media includes voice data.
81. The method of Claim 77, wherein the gateway is operable to forward the media to a target device.
82. The method of Claim 77, wherein the call control data is included in at least one packet having a first network address specification.
83. The method of Claim 82, wherein the first network address specification is an IP address corresponding to the packet-switched telephony service provider.
84. The method of Claim 77, wherein the media is included in at least one packet having a second network address specification.
85. The method of Claim 84, wherein the second network address specification is an IP address corresponding to the gateway.
86. A method for providing packet-switched telephony service, comprising in combination:
 sending call control data and media from a user device to a packet-switched telephony service provider according to a non-native protocol; and
 sending the call control data and the media from the packet-switched telephony service provider to a gateway according to a native protocol.

87. The method of Claim 86, wherein the call control data includes data selected from the group consisting of a call request, ping information, and disconnect signals.

88. The method of Claim 86, wherein the media includes voice data.

89. The method of Claim 86, wherein the gateway is operable to forward the media to a target device.

90. The method of Claim 86, wherein the call control data and media are included in at least one packet having a first network address specification.

91. The method of Claim 90, wherein for call control data and media sent from the user device to the packet-switched telephony service provider the first network address specification is an IP address corresponding to the packet-switched telephony service provider.